
XX. *On the Insect called Oistros by the Ancient Greeks, and Asilus by the Romans. By William Sharp Mac Leay, Esq., M.A. F.L.S. Communicated by the Zoological Club of the Linnean Society.*

Read March 16, 1824.

THE determination of the animals and plants mentioned by the ancient writers must always be a pleasing subject of research, tending, as it does, not merely to our better comprehension of the meaning of these authors, but also to our better acquaintance with the mysteries of nature. Every classical reader, as well as every entomologist, is familiar with the word *Oestrus* as the name of one of the most celebrated insects of antiquity. The insect itself, however,

“ cui nomen *Asilo*

“ Romanum est, *Æstron* Graii vertere vocantes,”

VIRG. Georg. iii. 147.

has not for this been the more accurately determined; and Olivier is the first modern naturalist who appears to have suspected that the *Æstrus* of the ancients and the *Æstrus* of the moderns are totally different insects. With an exception in favour of Messrs. Latreille, Kirby and Spence, this curious remark seems not to have excited much attention; although it may easily be proved, that Olivier has come much nearer the truth than those who hold the contrary opinion.

In investigations of the following nature, it is not only advantageous but necessary to begin from some fixed and indisputable position. Now such I take to be the identity of the insects termed in French *taon*; in Spanish *tavano*; in Italian *tabano*; and

and in Latin *tabanus*. The *tabani* are unfortunately insects too common for their name to have ever been forgotten; and knowing what the country people in France call *taons*, we know the insects which Pliny anciently termed *tabani*. By comparing Pliny with Aristotle, we find that he invariably translates the word *μύωψ* (*cæcutiens*) by the Latin word *tabanus*; and entomologists know well that this Greek name is extremely appropriate to the modern *tabani* or *taons*, which are so remarkable for their eyes, that a common species of *Chrysops* has at the present day the trivial epithet of *cæcutiens*. Now it appears from Aristotle, that the *οἴστρος** and *μύωψ* were insects extremely near each other in affinity; they are almost always mentioned by him together, and agree in every respect but that wherein Aristotle was least likely to be accurate, namely, their mode of generation. In description they always accord; they are both *diptera*, and therefore he says necessarily *ἐμπροσθόκεντρα*, “οὐδὲν δ’ἔστι διπτερον ὀπισθόκεντρον.” Now this, by the way, proves not only that the *οἴστρος* was not the modern *Æstrus*, but moreover that Aristotle could never have seen a modern *Æstrus* attack cattle; for had he seen it, he would most assuredly have deemed it *ὀπισθόκεντρος*. And yet he must have seen his *οἴστρος* about cattle; for he states positively not only that the *οἴστροϊ* pierce the hides of quadrupeds, but that they are armed with a strong tongue, and are blood-suckers (*ἀιμοβόρα ζῶα*). In both these last respects it is to be observed, that they differ totally from the modern *Æstrus*, but perfectly agree, as M. Latreille has well said, with the Linnæan *Tabani*.

Ælian describes the *οἴστρος* and *μύωψ* in the same way as Aristotle. They are both most inimical to cattle (*βουσὶν ἔχθιστα*). The *οἴστρος* he states to be one of the largest flies (*κατὰ τὰς μνῖας τὰς μεγίστας*), having a strong sting in its mouth, and uttering a

* *Οἴστρος* is a name also applied by Aristotle to some small insectivorous bird, and to some species of the *Cymothoada*, which is parasitical about the fins of the Tunny. Pliny also appears to apply the word *Æstrus* to the drone (lib. ii. c. 16.).

particular

particular kind of harsh humming noise (ἤχον βομβώδη τινὰ καὶ τραχύν). The μύωψ, on the other hand, he says is like the fly called by the Greeks *κινόμυια*; and although it makes a louder hum than the οἴστρος, he states that it has a smaller sting.

If we now turn to the poets, we shall find that their account of this insect tallies perfectly with the above description of the ancient naturalists, but not at all with the modern genus *Æstrus*.

Homer describes his *Æstrus* as αἰόλος, a word which applies admirably to the most common of all *Tabanidæ*, namely the *Tabanus pluvialis* of Linnæus, as well as to the insects which now form the genus *Chrysops*. And the Scholiast, after stating that the οἴστρος and μύωψ are very near in affinity, says that the latter differs in having a smaller sting in the mouth, and in being subæneous in respect to its aspect or *facies* (ὑπόχαλκον τὴν μορφὴν), thus evidently pointing, as I think, to the difference which exists between the modern genera *Tabanus* and *Hæmatopota*, the latter having much more splendid eyes. That Homer's insect was not the modern *Æstrus* may besides be inferred from what he says of the season in which it makes its appearance,

“Ὀρῆ ἐν εἰαρινῇ, ὅτε τ' ἤματα μακρὰ πέλονται”

for there are few cases, I believe, of the modern *Æstri* appearing earlier than the middle of July. And this circumstance, by the way, leads also to the conclusion, that the English *breeze* or *brize* is not the modern *Æstrus*, although it is generally understood so to signify in the following punning lines of Shakespeare :

“ Cleopatra,
The *breeze* upon her, like a cow in June,
Hoists sail and flies.”

Now Mouffet, who, both as an entomological observer and as a contemporary of Shakespeare, was likely to know the insect then named *brize*, says expressly that the *breeze*, *clegg*, *clinger*

and *taon*, are all the same insect, his description of which proves it to be no other than the *Hæmatopota pluvialis*, for which the *Clegg* remains to this day the well-known and appropriate provincial name—a name totally inapplicable to the modern *Æstrus*.

I have before said, that Aristotle makes it quite evident that his *οἴστρος* and *μύωψ* were very nearly of the same construction. So near indeed in affinity do they appear to have been, that *Æschylus* would seem to consider them as identical in his *Prometheus vincetus*. From this poet we learn, that they are *ὀξύστομοι*, and pierce the skin. *Io* says,

“ Οἴστροήλατῳ δὲ δέγματι δειλαίαν
Παράκοπον ᾧδε τείρεις; ”

In short, wherever the *μύωψ* is distinguished from the *οἴστρος*, I take the former to be either a *Chrysops* or *Hæmatopota**, or some insect near to them, and the latter to be some species of the modern genus *Tabanus*, probably the *Tabanus bovinus* Linn. or dun-fly, whose power of agitating cattle I have myself had occasion to witness. This last insect certainly appears to be the *Asilus* and *Æstrus* of Virgil. That this poet's insect cannot be identical with any modern *Æstrus* is clear from his describing it to be in great plenty, and to be “acerba sonans.” Now the *Æstrus bovis* is very rare every where; and, according to Mr. B. Clark, makes no noise. The *Æstrus equi* is also silent in flying, as I have repeatedly myself observed. So that neither of these insects can be that which is celebrated by Virgil, whose description of the ability of the ancient *οἴστρος* to make a particular kind of humming noise is corroborated by the Scholiast before mentioned as well as by *Ælian*.

* One circumstance which is mentioned by *Ælian* respecting the *Myops*, namely, that it makes a louder hum than the *Æstrus*, is perhaps against its identity with the modern genus *Hæmatopota*.

Messrs.

Messrs. Kirby and Spence in their *Introduction to Entomology* think that the ancient *Myops* was some species of Latreille's genus *Tabanus*, and that the *Æstrus* of the Greeks may either have been a *Pangonia* or a *Nemestrina*. What we know, however, of the latter genus answers in no one respect to the description above given of the ancient *Æstrus*, which certainly was an insect allied to the modern *Tabanus*; whereas *Nemestrina* has no immediate connexion with it either in economy or structure. Besides, no *Nemestrina* has ever yet been found in Europe. The argument for *Pangonia* is rather stronger, as this is not only an European genus, but one nearly allied to *Tabanus*. Aristotle however says, that his *Æstrus* and *Myops* have both a strong tongue (*ἰσχυρὰν γλῶτταν ἔχουσι*); a description in perfect accord with the mouth of a modern *Tabanus*, but quite at variance with the long, weak and flexible proboscis of *Pangonia*, which can scarcely be supposed capable of piercing the hide of an ox. Olivier and Latreille indeed both state, that the long trunk of *Pangonia*, like that of *Bombylius*, only serves for sucking flowers. But to insects that suck flowers Aristotle expressly places his *οἴστρος* in opposition.

It is rather interesting to remark the manner in which the early modern naturalists viewed this subject. Mouffet's opinion is, as far as I can make it out, the same with mine given above. At all events he considers the *μύωψ* of the Greeks to be our *Hæmatopota pluvialis*. Ray, on the other hand, considers this insect to be the *οἴστρος*, as we may judge from the following description, "Musca bipennis *Æstrum* dicta, alis membranaceis punctis crebris nigrioribus velut adpersis:" which is clearly the *Hæmatopota*.

Valisnieri appears to have been the first naturalist of any repute who took the modern *Æstrus* to be that of Virgil, while Martyn and other commentators seem to have adopted his opinion. The

first insect, which Linnæus considered to be the *Æstrus* of the ancients, appears to have been a species of the modern genus *Asilus*, probably the *Asilus crabroniformis*, as we learn from his *Lachesis Lapponica*. This was a gross error; and he soon rectified it, as he thought, by adopting the opinion of Valisnieri. It is not indeed unlikely that some of the ancients* should, like Valisnieri, have seen the perfect insects of the modern *Æstrus* flying about cattle, and that they should have witnessed the extraordinary agitation which they produce: but however this may be, they certainly appear to have always confounded such insects with the more common *Tabani*; for it is the modern *Tabanus*, or some genus extremely near to it, that they have always described as the *οἴστρος*.

I shall take this opportunity of quoting a passage from Mousset, which proves that he was acquainted with the modern genus *Æstrus*, although he did not confound it with the ancient *οἴστρος*. The passage will also show us how valuable is the information sometimes to be procured from this obsolete work; since, if we connect it with what Reaumur has said of the *Æstrus equi*, we have almost the whole economy of this interesting insect:

“ His proximè accedit alia musca bobus et jumentis interdum sole fervido infesta, quam Pennius *Curvicaudam* sive *σκολιουρὸν* jure appellat. Semper enim cruribus aut ventri jumentum insidens, caudam versus ipsam recurvam tenet et spiculum exertum quo ad percutiendum cauda sit paratior (*δίπτειρον ὀπισθόκεντρον*).

* Aristotle was not certainly one of these ancients; for he could never have seen a female of the modern *Æstrus*, as appears from his stating that no dipterous insect has its sting placed behind. It seems however to have escaped the notice of naturalists, that this great philosopher was acquainted with, and has described the larva of one of the modern family of *Æstridæ*; and, as is rather singular, precisely that larva which Reaumur describes as infesting the fauces of the stag, but of which the perfect insect remains still unascertained.—See *Arist. Hist. Anim. lib. ii. c. 18*; and *Reaum. tom. v. 67—77*.

Hanc Angli a *Whame* and a *Burrell-flye* proprie vocant, nec nisi in Angliâ facile invenitur. Musca hæc api fere similis formâ et colore, sed corpore est crassiore. Non adhæret nec sanguinem sugit sed solummodo stimulo in caudâ pungit, atque ut equos affligat per longissima itinera ipsos volando persequitur. Equi naturâ hanc muscam timent et ad ejus solum contactum quasi horrent, caudâ pedibusque et labiis tam cruentum hostem abigere sæpe conantes. Sunt qui putant hanc muscam non aculeo pungere, sed stercore (*ova*) pilis equi affigere caudâ, unde postea molestissimæ lendes gignuntur. Magno quidem impetu sed cæco ad prædam *Tabanus* atque Σπολιουρὸς feruntur." p. 62.